

**Technical Report**

**IBM Software Solutions, Research Triangle Park, North Carolina, USA**

# **How to Migrate a Project From Microsoft Source Safe To VisualAge® TeamConnection™ Version 3**

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TeamConnection Development  
IBM Software Solutions  
Research Triangle Park, North Carolina

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## **ABSTRACT**

This technical report provides information and procedures for migrating source code from Microsoft Source Safe to VisualAge TeamConnection V3 database. The objective is to provide a guideline that will reduce errors and save time by avoiding common mistakes and procedural problems. We will discuss how Source Safe projects and labels map to TeamConnection using the migration utility supplied with this technical report (migss). However, this migration utility currently supports only the migration of projects and not the migration of labels (the migration of labels is not yet supported).

## **ITIRC KEYWORDS**

VisualAge  
TeamConnection  
DB2  
Source Safe

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## Introduction

This technical report provides a procedure and tools that aid in the migration of Microsoft Source Safe projects to VisualAge TeamConnection Enterprise Server Version 3.

### The objectives of this technical report are:

1. To describe the mapping of Source Safe to TeamConnection.
2. To describe the migration process.
3. To provide tools for migration and hints on how to use these tools.
4. To provide the details on the migration tools and how to get them (see *Obtaining the Tools at the end of this document*). The migration tools are not packaged with TeamConnection.

There are three basic steps for the migration of a Source Safe Project to VisualAge TeamConnection.

### 1. Extract the Source Safe Project to a local File System.

This can be done using the migss utility, or the migss utility can skip this step if the source code to be migrated already exists on the file system. A project and all of its sub-projects are extracted.

### 2. Create the appropriate TeamConnection Component, Release, and Workarea.

The ReleaseName is supplied by the user, however, the component name is hard coded as the Source Safe project name. Many projects can be migrated to a single Release.

### 3. Create the files in VisualAge TeamConnection in the appropriate context.

In this Beta version of migss, a tool called AIXFIND.EXE is used to traverse the projects sub directories. This tool will also be provided as part of this technical report.

### Note:

The current Migration utility (migss) to migrate a Source Safe Project to VisualAge TeamConnection is designed only to migrate the latest version of a Source Safe project to TeamConnection. This utility maps a Source Safe Project to a TeamConnection Component in a specified TeamConnection Release. Additional functionality will be added as time permits to support the migration of Source Safe Labels. The migration of Labels will be mapped to TeamConnection Drivers. This function would allow a complete migration of version history into TeamConnection.

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### **How to get the most up to date version of this technical report**

The most up to date version of this technical report can be obtained from the IBM VisualAge TeamConnection Enterprise Server:

Library home page by selecting the item **Library** at URL:

<http://www.software.ibm.com/ad/teamcon>

FTP site by accessing the URL (See the file README.index.txt for details):

<ftp://ftp.software.ibm.com/ps/products/teamconnection/papers/migss.pdf>

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# Overview of the migration process

## General suggestions

Here is a broad overview of the steps needed to migrate Microsoft Source Safe Projects to VisualAge TeamConnection:

1. Prepare the migration plan.
  - Learn and understand TeamConnection Releases, Components, and Drivers.
  - We suggest you identify which projects should be migrated to specific TeamConnection Releases. In general, a packaged product consists of a unique set of projects and their sub projects. Each product, or perhaps version of a product, should be identified. This will become a TeamConnection Release. Releases may be different versions of a single product deliverable, various deliverable products, or both.
  - Train users on TeamConnection prior to migration.
2. Gather all materials needed for planning and migration.
3. Prepare Source Safe for migration by completing all work that will be migrated.
4. Prepare the new VisualAge TeamConnection family.
  - A new family needs to be created in VisualAge TeamConnection in order to have a place for the data to be migrated from Source Safe.
5. Perform the migration of a group of projects to specified TeamConnection releases.
  - It is recommended that you break the emigration into small steps. Each step being the group of projects that make up a specific product, or version of a product. Do not try to migrate the entire Source Safe database at once. Between each migration step, backup the TeamConnection database.
  - Whether the migration is for practice or a real one, these are the basic steps:
    - Select the projects to be migrated.
    - Construct a migration batch file.
    - Migrate the projects to the specified release.
6. Verify the new TeamConnection family.
  - Verify the migration by simply extracting the files from a specified release that maps to a group of Source Safe projects. Then use any compare utility to verify the correct source code content.
7. Perform post-migration tasks on the new family, such as adding user exits, configurable fields, and setting up user ids, passwords and host lists.
- 8.

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### Checklist of material related to TeamConnection

	<b>Document/Media Name</b>	<b>Current Version</b>
	VisualAge TeamConnection Enterprise Server V3 Fullpak	3.0.3
	VisualAge TeamConnection Enterprise Server V3 HotFix(s)	hotfix 1.
	VisualAge TeamConnection Enterprise Server V3: Administrator's Guide and Installation Guide (softcopy)	3.0.3
	Technical Report 29.3076: Configuration and Administration of DB2 Universal Database V5 by users of VisualAge TeamConnection Enterprise Server V3	TeamConnection ftp site. File <b>trtc3db2.pdf</b>
	Technical Report 29.3094: VisualAge TeamConnection Version 3: how to do routine operating system tasks	TeamConnection ftp site. File <b>trtc3oem.pdf</b>
	Technical Report 29.3032: Making the most of VisualAge TeamConnection user exits.	TeamConnection ftp site. File <b>trtcusrx.pdf</b>

#### Notes:

1. To get the latest VisualAge TeamConnection Version 3 code, you can access the following sites:

Public Internet URL: <http://www.software.ibm.com/ad/teamcon/>

2. To get the latest VisualAge TeamConnection Version 3 tools, you can access the following sites:

Public Internet URL: <ftp://ftp.software.ibm.com/ps/products/teamconnection/tools/>

IBM intranet URL: <http://wwwcmvc.raleigh.ibm.com/tools.html>

3. To get the latest VisualAge TeamConnection Version 3 technical reports, you can access the following sites:

Public Internet URL: <ftp://ftp.software.ibm.com/ps/products/teamconnection/papers/>

IBM intranet URL: <http://wwwcmvc.raleigh.ibm.com/papers.html>

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### What to do to before migration

The migss migration utility will use Source Safe client commands. The only requirement from TeamConnection is:

The Source Safe client needs to be installed on the target system where the TeamConnection server is installed.

### Prepare the target Version 3 family

#### Checklist for creating a new Version 3 family

The following steps are needed to install VisualAge TeamConnection Enterprise Server Version 3 and to create a new family which will be used as the place to store the data migrated from Source Safe.

**Target system:** These activities are done in the host system where the new VisualAge TeamConnection Version 3 family will be located. This system will be called the **target system**.

	Description of task	Est. Time	Comment
	Install the VisualAge TeamConnection Enterprise Server Version 3.0.3 or later.	1 hr	See <b>Verifying the Installation of TeamConnection</b> .
	Install DB2 Universal Database (DB2 UDB) Version 5 and fixpak 8, then create the DB2 instance. Read the VisualAge TeamConnection 3.0.3 Fullpak Installation instructions located on the TeamConnection CD.	1 hr	See the technical report <b>Configuration and Administration of DB2 Universal Database V5 by users of VisualAge TeamConnection Enterprise Server V3</b>
	Install the latest HotFix for FixPak 3.0.3 of VisualAge TeamConnection.	1 hr	See the appropriate readme file for the HotFix.
	Create the family in TeamConnection. Use TCADMIN.	½ hr	See the TeamConnection Admin Guide.

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It is recommended that during the migration process, the authentication level of the target family should be the default HOST_ONLY.	5 min	This is setup in the Properties notebook in TCADMIN or in the file: \$HOME/config/security
Start the TeamConnection family: <b>teamcd <i>yourFamily</i> <i>N</i></b> Where <i>N</i> is the number of daemons.	5 min	The TeamConnection Version 3 family must be operational in order to migrate the data from Source Safe.
Ensure that the notification daemon, <b>notifyd</b> , should not be active. If it is active, then terminate it: find out its process id (pid): <b>ps -ef   grep notifyd</b> terminate it: <b>kill -15 <i>pid</i></b>	5 min	During migration some notification messages might be generated; because these messages are not needed, the notification daemon should not be running.
Make a backup of the new target family. It is faster to restore a newly created family from a backup than to recreate it from scratch.	½ hr	Use the db2 backup command.
Setup the environment variables needed for the migration.	10 min	Refer to the following text under the heading: <b>Environment setup for running the migration utility (migss).</b>

### Check for FixPaks and HotFixes

Determine what version of VisualAge TeamConnection you are using, then go to the IBM software FTP site to see if any FixPaks or HotFixes are available that could make the migration go easier.

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### Important information about installing the code and creating user ids

After you install the VisualAge TeamConnection Enterprise Server Version 3 code, adhere to the following guidelines:

Use different directories for the DB2 code, for the VisualAge TeamConnection code, for the DB2 instance and the TeamConnection Version 3 family.

Do not alter the contents of **\$TC\_HOME** unless you are going to deinstall the product.

Do not use **\$TC\_HOME** as the home directory for any families or users.

It is very important that the directories and the user ids must be kept separate. This will avoid potential loss during maintenance activities.

### Create family using tcadmin

You must use the **VisualAge TeamConnection Family Administrator (tcadmin)** tool to create a new VisualAge TeamConnection Version 3 family before migrating. These utilities will delete any exiting family database prior to creating a new one, saving the effort of manually dropping the database.

### Environment setup for running migration utility (migss)

1. Login to the VisualAge TeamConnection Version 3 family that will be the target for the migration. Since Source Safe is a Windows NT application, we will assume that the target environment for TeamConnection is Windows NT.

2. Update the environment: Intel format.

```
set    TC_FAMILY=targetFamilyName
set    TC_BECOME=superUserId
```

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# Performing the migration

## Checklist for migrating Source Safe Projects to TeamConnection Version 3.

Description of task	Est. Time	Comment
Prepare a batch file to make invocations of migss for each project to be migrated.	1 hr	See sample batch file below.
Execute the batch file to run migss.	1 - 12 hrs	Depends on how much data is being migrated..

### Sample Batch file used to migrate a group of projects.

The following batch file will migrate project1, project2, and project3 to TeamConnection release R303. The utility will first extract the files from a Source Safe Project and place the files in c:\myproject\project1, c:\myproject\project2, etc.

Then project4, project5, and project6 will be migrated to TeamConnection release R304.

However, this time the utility will migrate the files already located in c:\project1\project1, etc.

```
migss y c:\myproject project1 R303
migss y c:\myproject project2 R303
migss y c:\myproject project3 R303
migss n c:\myproject project4 R304
migss n c:\myproject project5 R304
migss n c:\myproject project6 R304
```

### Usage:

```
migss y/n top project release
```

where:

y/n: y means to first extract the project to top\projectName

n means the utility will migrate the files that already exist in top\projectName

top: This is the top most portion of the path that the project will be extracted to, and is also used by TeamConnection to determine where to locate the source code when creating the files in the database.

project: This is the name of the Source Safe project to migrate

release: This is the name of the TeamConnection release that the project will be migrated to.

### Output from the migration utility (migss)

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All of the print statements that are generated on the screen are also recorded in a log file. The name of the log file is:

..\projectName\_migration.log

The log from the Source Safe extract is located in:

..\projectName\_extract.log

### Figure #1: sample output project1\_migration.log

```
---> Verifying TeamConnection Environment Variables
---> Testing Connection to the TeamConnection Family: TESTFAM@KEVINLPTP@9999
---> Get Files from the safe, Project: PROJECT1
--->     Extract Project: PROJECT1
--->     Results of extract in logfile
D:\migrate\migtc\planetrx\PROJECT1_EXTRACT.LOG
Project PROJECT1 successfully Extracted from Source Safe
---> Create TC Component: PROJECT1
      ERROR: Failed to create the TeamConnection Component:   PROJECT1
--> Create TC WorkArea: PROJECT1
---> Create Files in TeamConnection for project:   PROJECT1   Release:   V303
PROJECT1\GATHER.C
PROJECT1\GATHER.EXE
PROJECT1\HELLO.C
PROJECT1\HELLO.H
PROJECT1\HELLO2.C
PROJECT1\HELLO2.H
PROJECT1\PROJECT1A\FHBCOBM.JCL
PROJECT1\PROJECT1A\FHBM370.JCL
PROJECT1\PROJECT1A\FHBMC.JCL
PROJECT1\PROJECT1A\FHBMLINK.JCL
PROJECT1\PROJECT1A\FHBMP LI.JCL
PROJECT1\PROJECT1A\FHBPLKED.JCL
PROJECT1\PROJECT1A\HELLO.C
PROJECT1\PROJECT1A\HELLO.H
PROJECT1\PROJECT1A\VSSVER.SCC
PROJECT1\VSSVER.SCC
PROJECT1\PROJECT1_LIST.TMP
Migration of project PROJECT1 Completed Successfully
```

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### Figure #2: sample output project1\_extract.log

```
$/PROJECT1:  
Getting gather.c  
Getting gather.exe  
Getting HELLO.C  
Getting HELLO.H  
Getting HELLO2.C  
Getting HELLO2.H  
  
$/PROJECT1/project1a:  
Getting fhbcobm.jcl  
Getting fhbm370.jcl  
Getting fhbmc.jcl  
Getting fhbmlink.jcl  
Getting fhbmpli.jcl  
Getting fhbplked.jcl  
Getting HELLO.C  
Getting HELLO.H
```

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### **How to avoid common mistakes**

The migration utility may throw an error and consequently end for a number of reasons. Here are the most common reasons for program termination.

#### **Incorrect usage**

Verify that the correct number of parameters are passed. Also verify the correct spelling of the parameters being passed, as any one misspelled will lead to errors.

#### **Environment variables not set correctly.**

TC\_FAMILY and TC\_BECOME are required environment variables.

#### **The TeamConnection family is not running**

The family server must be started in order to migrate.

#### **Failure to extract files from Source Safe**

Verify the correct project name and pathname are set on the invocation.

#### **TeamConnection Component, release, or workarea could not be created.**

Verify that a project by that name has not already been migrated in the same release. Use the teamc report command to determine if the objects already exist. TeamConnection will send an appropriate message to help diagnose the condition.

#### **Files could not be created in the specified context**

Verify the files do not already exist in the context requested. The migration utility will continue if this error occurs. The error is logged, so you may be able to create files manually after the migration completes.

#### **Unable to change to a work directory**

Verify the usage is correct for the 'top' parameter and the 'project' parameter on invocation.

#### **Could not generate the list of files to migrate**

Verify that the tool 'AIXFIND.EXE' is in your path. The AIXFIND.EXE tool is packaged in the migss.zip file. See the section on 'Obtaining the tools' in this technical report.

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### Verifying the migration

To verify the project was migrated successfully, we recommend two basic actions:

#### A. Verify the correct number of parts exist in the component that mapped to the migrated Source Safe Project.

The migration utility created a component with the same name as the project being migrated. During the migration, you specified to which release the project will be associated to.

Issue the following DB2 commands to determine the number of parts in a given component and release context. Then compare this number to the actual number of files that exist in your Source Safe Project.

```
db2 connect to familyName

db2 "select count (*) from FileView where compName='projectName' and
releaseName='releaseName'"
```

#### B. Verify the part content in TeamConnection is identical to the file content in Source Safe.

Use the TeamConnection release extract command to extract all parts from the specified component.

Specify the component that mapped to the project you want to verify.

```
teamc release -extract releaseName -root c:\extract\releaseName
-component projectName -crlf -verbose
```

Now you should recursively get the project from Source Safe by following your normal procedures.

Use any compare utility to verify the part contents. We use diff.exe together with aixfind.exe, which we included in the migration zip package with this Technical report. See 'Obtaining the tools' section.

```
aixfind . -print -type f -exec diff -b {} d:\project\ {};
```

**To use the aixfind and diff tools to verify part content, let's assume the following:**

1. Extract the TeamConnection parts to directory d:/TC/extract/projectName
2. Get the Source Safe Project and place it in d:/SS/projectName.
3. If TeamConnection and Source Safe are on different machines, it may be necessary to zip up and ftp the directory structure to the same machine.
4. Change to the d:\TC\extract\projectName directory.
5. Execute the following command:

```
aixfind . -print -type f -exec diff -b {} d:\SS\project\ {};
```

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## Obtaining the Tools

The tools described in this technical report can be downloaded as follows:

From the IBM intranet (only for IBM employees).

From the Internet (open to everyone).

### Notes:

The tools referenced in this document are available from ftp sites instead of being included in this document so that we can update the tools as necessary.

VisualAge TeamConnection Enterprise Server Version 3 is available to IBM users through our internal web site.

The fixpaks for VisualAge TeamConnection are available from the external home page:  
<http://www.software.ibm.com/ad/teamcon/downloads>

## IBM Intranet

### Web Home Page for TeamConnection

You can access the VisualAge TeamConnection Home Page at:

<http://tc-cmvc.raleigh.ibm.com/>

From the index at the top of the page, select **Tools to migrate from CMVC or VisualAge TeamConnection Version 2 to VisualAge TeamConnection Version 3.**

### FTP site for TeamConnection

You can download the code from our internal FTP site (an OS/2 host) for TeamConnection, by doing:

1. ftp tc-cmvc.raleigh.ibm.com
2. login as **anonymous** and for password give your email address.
3. cd papers
4. binary
5. get migss.zip
6. quit

## Public Internet

### Web Home Page for TeamConnection

You can access the VisualAge TeamConnection Home Page at:

<http://www.software.ibm.com/ad/teamcon>

### FTP site for TeamConnection

You can download the code from our external FTP site for TeamConnection, by doing:

1. ftp ftp.software.ibm.com
2. login as **anonymous** and for password give your email address.
3. cd ps/products/teamconnection/papers
4. binary
5. get migss.zip
6. quit

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### Obtaining Info-ZIP

The VisualAge TeamConnection team uses the Info-Zip **zip** and **unzip** tools to package compressed files (in which the files to be packaged are compressed first). The migration tools mentioned in this technical report are packaged into a single zip file.

The main advantages of Info-ZIP are:

Compatibility: these tools are compatible with other ZIP programs.

Portability: they are available in ALL the platforms that are supported by VisualAge TeamConnection.

Cross-platform: A zip file prepared in Unix can be unzipped in the correct format in Windows NT and vice versa.

Info-ZIP's software is free and can be obtained for the desired platforms from various anonymous ftp sites, including the URL:

`ftp://ftp.uu.net:/pub/archiving/zip/`

### How to unzip files

To only view the contents of the zip file (without actually unpackaging and uncompressing the files) do: **unzip -l migss.zip**

To unpackage and uncompress the zip file do: **unzip migss.zip**

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